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GEOGRAPHY AND TRAVELS.¹

THE CHUKCHES AND THE KURO-SIVO.—Captain Hooper, lately in command of the U. S. steamer *Corwin*, in an address before the Geographical Society of the Pacific, spoke of the habits and customs of the Chukches who inhabit the arctic coast of Siberia. In the winter they travel west on their way to the Russian trading posts in the interior, which they reach by ascending the rivers west of Cape Jakan; in the spring they travel to East Cape, cross Behring Strait, and continue their journey to Cape Blossom, Kotzebue Sound, where they meet the Eskimo from the entire coast of Arctic Alaska, from Point Barrow to Cape Prince of Wales, for purposes of trade, returning to their houses by the same route in the latter part of the summer.

Captain Hooper is of the opinion that a branch of the Kuro-Sivo, or Japanese warm stream, passes through Behring Strait, but subject to the varying conditions of wind and ice. A southerly wind accelerates it, while a northerly wind stops it entirely for a time; and in some cases of a long-continued northerly wind, it is not impossible that a slight southerly set may be created, but such an occurrence must be rare and of short duration. The current is much stronger in August and September than in the early part of the season when the ice-pack extends entirely across the Behring Sea. This branch of the Kuro-Sivo follows the direction of the Kamchatka coast to the northward through Behring Sea, passing between St. Lawrence Island and the coast of Asia, and thence through the strait, after which it is controlled in a great measure by the condition of the ice-pack. Captain Hooper stated that he had never known the current through the Strait to exceed three knots per hour, the average being probably not more than two knots. Near Herald and Wrangell Islands the current was found setting to the north and eastward about two knots per hour, and no tidal change was detected; off the south coast of Wrangell Island a slight westerly current was observed. In the Arctic, as well as in the Behring Sea, there is no doubt a tidal current, but it is so dependent on the conditions of the ice that only the mean of a long series of careful observations could determine its characteristics.

Six cases containing the zoölogical and anthropological collections, made by the brothers Krause in the Chukchi peninsula, have arrived at Bremen. Dr. Arthur Krause will remain in Alaska during the summer, but his brother is now on his way home.

GEOGRAPHICAL NOTES.—Mr. A. R. Colquhoun, an officer in the employ of the Government of India, who has spent ten years in surveying and engineering work in British Burma, has undertaken a journey through southern China, and across the frontier through

¹ Edited by ELLIS H. YARNALL, Philadelphia.

Burma to Rangoon. He proposes to start from Canton and attempt the ascent of the Si-kiang or Canton river to the highest navigable point, and thence pass through the southern part of the Yunnan province and the Shan states by way of Kiang-hung, Kiang-tung, Zimmay, and Shuaigyeen or Tonghoo, to Rangoon. He expects to travel over one thousand miles of new ground, and to bring back a full description of fifteen hundred miles of country hitherto undescribed. The two great objects of Mr. Colquhoun's adventurous journey are to collect information of permanent value to geographical science, and to gather materials for a journal of travel likely to prove interesting to the general public.—The town of Tokio, Japan, by a recent census was found to contain 1,064,331 inhabitants.—Dr. Crevaux, when last heard from, had reached the sources of the Rio Pilcomayo, S. lat. 21° , W. long. $68^{\circ} 20' 15''$, in the Republic of Bolivia. Some very important geographical observations had been made in connection by telegraph with the Cordova Observatory.—The *Nature* states that a Russian naval officer has invented a very ingenious apparatus for ascertaining the depth of the sea without the use of a costly and heavy line. Indeed, no line at all is used. The instrument consists of a piece of lead, a small wheel with a contrivance for registering the number of revolutions, and a float. While the apparatus sinks the wheel revolves, and the registered revolutions indicate the depth. When the bottom is reached, the lead becomes detached, the float begins to act, and the machine shoots up to the surface, where it can easily be fished up by a net and the register read off.—The celebrated Indian explorer, Nain Singh, or the Pundit No. 9, is dead. He was one of the most remarkable travelers of this century; his explorations in the Trans-Himalayan regions, and especially in Thibet in the service of the Trigonometrical Survey of India, were most successful and important.—The Rev. W. S. Green has undertaken the exploration of the great glaciers of New Zealand, and the ascent of some of the highest peaks of those islands, several of which have never been attempted. He is accompanied by two well-known Swiss guides. Afterwards Mr. Green proposes to visit New Guinea and ascend Mount Owen Stanley.—Captains Burton and Cameron have been visiting gold deposits in Apollonia and other districts near Axim, west coast of Africa. They were to start for the interior via the Ankobra river on February 25th last. They are making a valuable collection of objects of natural history.—It is thought that the American Mission will fix their station at Bailundo, fifty miles from Bihé, in the center of the region in which the Ganguela language is predominant, and on the line of the densest population towards the center of Africa.—The following papers were to be read at the German Geographical Congress, which met at Halle on April 11–14: On some scientific results of the voyage of the *Gazelle*, particularly from a

zoögeographical point of view, by Professor Studer (Berne); On the progress of our knowledge of Sumatra, by Professor Kan (Amsterdam); On the alleged influence of the earth's rotation upon the formation of river-beds, by Professor Zöppritz (Konigsberg); On the colonies of Germans and their neighbors in Western Europe, by Herr Meitzen (Berlin); On the historical development of geographical instruction, by Dr. Kropatschek (Brandenburg); On the treatment of subjects relating to conveyance in geographical instruction, by Professor Paulitschke (Vienna); On the introduction of metrical measures in geographical instruction, by Professor Wagner (Göttingen); On the relation between anthropology and ethnology, by Professor Gerland (Strassburg); On the ethnological conditions of Northern Africa, by Dr. Nachtigal (Berlin); On the Polar question, by Professor Neumayer (Hamburg); On the geographical distribution of Alpine lakes, by Professor Credner (Greifswald); On the true definition of the development of coasts, by Professor Günther (Ansbach); On geographical instruction in its relation to natural sciences, by Professor Schwalbe (Berlin); On the Guldberg-Mohn theory of horizontal air currents, by Professor Overbeck (Halle); On the systematic furtherance of the scientific topography of Germany, by Herr Lehmann (Halle).

MICROSCOPY.¹

MICRO-CHEMISTRY.—In a paper by H. Reinsch on the detection and separation of certain minerals under the microscope, it is claimed that the use of the microscope in chemical analysis is not only rapidly increasing, but that it is approaching the spectroscope and in some respects surpassing it in usefulness. It is admitted, however, that great skill is required in manipulation, and in preparing test objects to verify results, as appearances vary according to the degree of concentration of the solutions used, and different reactions will sometimes be obtained from the same salt. The following are some of the more interesting experiments, as translated in the *Scientific American Supplement*.

"Silica, of all substances, yields the most varied and beautiful forms, resembling plants and ferns, often presenting, in the most glowing colors, five-leaved flower forms in infinite varieties. To obtain these forms, we place a drop of a four per cent. solution of potassium silicate on an object slide, and then add a drop of a two per cent. solution of sodium bicarbonate, and then allow the liquid to evaporate at the ordinary temperature; after a few hours have elapsed the most beautiful flower forms will be found spread over the slide, and will be readily recognized by a pocket lense, but when examined by the microscope with the Nicol at 90°, will exhibit the crystals gleaming with a most magnificent play of colors. By moistening the object with a drop of copal varnish, and covering it with a thin glass, these forms may be permanently

¹ This department is edited by Dr. R. H. WARD, Troy, N. Y.